```
      Set  Items  Description
      ---  -----  -----------
? set hi ;set hi
HILIGHT set on as ''
HILIGHT set on as ''
? begin 5,6,55,154,155,156,312,399,biotech,biosci
>>>          135 is unauthorized
```

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      Set  Items  Description
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? s GGGG
      S1     422  GGGG
? s s1 and modified
             422  S1
         1909927  MODIFIED
      S2      31  S1 AND MODIFIED
? rd s2
>>>Duplicate detection is not supported for File 391.

>>>Records from unsupported files will be retained in the RD set.
...completed examining records
      S3      11  RD S2 (unique items)
? d s3/3/1-11
      Display 3/3/1     (Item 1 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.

0012684997   BIOSIS NO.: 200000403310
Identification of sequence motifs in oligonucleotides whose presence is
  correlated with antisense activity
AUTHOR: Matveeva O V (Reprint); Tsodikov A D; Giddings M; Freier S M; Wyatt
  J R; Spiridonov A N; Shabalina S A; Gesteland R F; Atkins J F
AUTHOR ADDRESS: Department of Human Genetics, University of Utah, 15N 2030E
  Room 7410, Salt Lake City, UT, 84112-5330, USA**USA
JOURNAL: Nucleic Acids Research  28 (15): p2862-2865 August 1, 2000 2000
MEDIUM: print
ISSN: 0305-1048
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

                                - end of record -
? s s1 not py>1993
Processing
Processed  10 of  35 files ...
Processing
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
Processed  20 of  35 files ...
Processing
Completed processing all files
             422  S1
        70278498  PY>1993
      S4     126  S1 NOT PY>1993
? s s4 and modified
             126  S4
         1909927  MODIFIED
      S5       1  S4 AND MODIFIED
? d s5/9/1
      Display 5/9/1     (Item 1 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.

0006689102   BIOSIS NO.: 198988004217
MEASUREMENT OF THE BINDING OF TRANSCRIPTION FACTOR SP1 TO A SINGLE GC BOX
  RECOGNITION SEQUENCE
AUTHOR: LETOVSKY J (Reprint); DYNAN W S
AUTHOR ADDRESS: DEP CHEM BIOCHEM, CAMPUS BOX 215, UNIV COLO, BOULDER, COLO
  80309, USA**USA
JOURNAL: Nucleic Acids Research  17 (7): p2639-2654 1989
```

ISSN: 0305-1048
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The equilibrium constant was determined for the binding of the transcription factor Sp1 to a single consensus CG box DNA recognition site, (5'-GGGGCGGGGC-3'). For these experiments, single copies of the recognition site were synthesized and cloned in a standard plasmid

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Display 5/9/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

background. Binding was measured either by a footprinting assay **modified** so that the binding reaction was at equilibrium, or by a gel mobility shift assay. The concentration of active Sp1 in the reactions and the dissociation constant were determined by computer-assisted fitting to theoretical curves. Values for the dissociation constant obtained in different experiments ranged from 4.1 + 10-10 M to 5.3 + 10-10 M. Several variants of the consensus recognition site were also tested. An A-substituted variant (5' ***GGGG*** _AGGGGC-3') and a T-substituted variant (5'-**GGGG**_TGGGGC-3') were bound 3-fold and 6-fold more weakly than the consensus site, respectively. A G-substituted variant (5'- ***GGGG*** _GGGGGC-3') was bound at least 30-fold more weakly than the consensus site. These findings help distinguish between alternative models for Sp1-DNA recognition. They are consistent with the presence of specific hydrogen-bond contacts between Sp1 and the central C-G base pair, but provide no particular evidence to support a model where local DNA structure is the dominant factor in the interaction

-more-

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Display 5/9/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

DESCRIPTORS: HELA CELLS
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Molecular Genetics--Biochemistry and Molecular Biophysics
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Chordates; Humans; Mammals; Primates; Vertebrates
CONCEPT CODES:
00530 General biology - Information, documentation, retrieval and computer applications
02508 Cytology - Human
03508 Genetics - Human
10052 Biochemistry methods - Nucleic acids, purines and pyrimidines
10054 Biochemistry methods - Proteins, peptides and amino acids
10062 Biochemistry studies - Nucleic acids, purines and pyrimidines

-more-

? s s4 and phosphoro?
126 S4
150548 PHOSPHORO?
S6 0 S4 AND PHOSPHORO?
? s GGGG or G4
422 GGGG

```
           17839  G4
      S7   18257  GGGG OR G4
? s s7 not py>1993
Processing
Processed  10 of  35 files ...
Processing
>>>One or more prefixes are unsupported
>>>  or undefined in one or more files.
Processed  20 of  35 files ...
Completed processing all files
           18257  S7
         70278498  PY>1993
      S8    5654  S7 NOT PY>1993
? s s8 and (modified or phosphoro?)
            5654  S8
         1909927  MODIFIED
          150548  PHOSPHORO?
      S9     178  S8 AND (MODIFIED OR PHOSPHORO?)
? rd s9
>>>Duplicate detection is not supported for File 391.

>>>Records from unsupported files will be retained in the RD set.
...examined 50 records  (50)
...examined 50 records  (100)
...examined 50 records  (150)
...completed examining records
     S10      80  RD S9 (unique items)
? d s10/3/1-80
      Display 10/3/1     (Item 1 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
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0009301364   BIOSIS NO.: 199497322649
The second antigen-specific IgE response in murine lymphocytes is resistant
  to blockade by anti-IL4 antibody and an antisense oligodeoxynucleotide
  for IL4 mRNA
AUTHOR: Haruna Ken-Ichi; Hikida Masaki; Ohsugi Yoshiyuki; Ohmori Hitoshi
  (Reprint)
AUTHOR ADDRESS: Dep. Biotechnol., Fac. Eng., Okayama Univ., Okayama, Japan
  **Japan
JOURNAL: Cellular Immunology  151 (1): p52-64 1993 1993
ISSN: 0008-8749
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

                                - end of record -
?
      Display 10/3/2     (Item 2 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.

0008967355   BIOSIS NO.: 199396131771
Spontaneous in vitro IgE synthesis: Modifications induced by immunotherapy
AUTHOR: De Las Marinas Maria D (Reprint); Sanz Maria L; Ferrer Marta;
  Oehling A
AUTHOR ADDRESS: Dep. de Alergol. e Inmunol. Clinica, Clinical Univ., Apto.
  192, Pamplona, Espana, spain**spain
JOURNAL: Journal of Investigational Allergology and Clinical Immunology  3
(4): p178-181 1993
ISSN: 1018-9068
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
```

LANGUAGE: English

- end of record -

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Display 10/3/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.

0008932583 BIOSIS NO.: 199396096999
Cholinesterases regulate neurite growth of chick nerve cells in vitro by means of a non-enzymatic mechanism
AUTHOR: Layer Paul G (Reprint); Weikert Thomas; Alber Regina
AUTHOR ADDRESS: Technische Hochschule Darmstadt, Inst. Zoologie, Schnittspahnstrasse 3, W-6100 Darmstadt, Germany**Germany
JOURNAL: Cell and Tissue Research 273 (2): p219-226 1993
ISSN: 0302-766X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

- end of record -

?

Display 10/3/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.

0008773485 BIOSIS NO.: 199395075751
Gangliosides and organ-specific metastatic colonization
AUTHOR: Coulombe Josee; Pelletier Guy (Reprint)
AUTHOR ADDRESS: Centre de Recherche Inflammation, Immunologie Rhumatologie, 2705 Blvd. Laurier, Saint-Foy, Quebec G1V 4G2, Canada**Canada
JOURNAL: International Journal of Cancer 53 (1): p104-109 1993
ISSN: 0020-7136
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

- end of record -

?

Display 10/3/5 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0008767780 BIOSIS NO.: 199395070046
Suppression of interleukin 4 production from type 2 helper T cell clone by antisense oligodeoxynucleotide
AUTHOR: Hikida Masaki; Haruna Ken-Ichi; Ohmori Hitoshi (Reprint)
AUTHOR ADDRESS: Dep. Biotechnology, Fac. Engineering, Okayama Univ., Tsushima-Naka, Okayama 700, Japan**Japan
JOURNAL: Immunology Letters 34 (3): p297-302 1992
ISSN: 0165-2478
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

- end of record -

?

Display 10/3/6 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0008761647 BIOSIS NO.: 199395063913
Structural consequences of a carcinogenic alkylation lesion on DNA: Effect

of O-6-ethylguanine on the molecular structure of the d(CGC(e-6G)AATTCGCG)-netropsin complex
AUTHOR: Sriram M; Van Der Marel Gijs A; Roelen Harlof L P F; Van Boom Jacques H; Wang Andrew H-J (Reprint)
AUTHOR ADDRESS: Univ. Ill. Urbana-Champaign, Urbana, Ill. 61801, USA**USA
JOURNAL: Biochemistry 31 (47): p11823-11834 1992
ISSN: 0006-2960
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

- end of record -

? d s10/9/6
Display 10/9/6 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0008761647 BIOSIS NO.: 199395063913
Structural consequences of a carcinogenic alkylation lesion on DNA: Effect of O-6-ethylguanine on the molecular structure of the d(CGC(e-6G)AATTCGCG)-netropsin complex
AUTHOR: Sriram M; Van Der Marel Gijs A; Roelen Harlof L P F; Van Boom Jacques H; Wang Andrew H-J (Reprint)
AUTHOR ADDRESS: Univ. Ill. Urbana-Champaign, Urbana, Ill. 61801, USA**USA
JOURNAL: Biochemistry 31 (47): p11823-11834 1992
ISSN: 0006-2960
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Exposure of cell to alkylating agents produces DNA lesions, most of which are repaired. However some alkyl lesions persist and play a role in inducing point mutations and the subsequent carcinogenic conversion.

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Display 10/9/6 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

O-6-Ethylguanine (e-6G) is a relatively persistent alkylation lesion caused by the exposure of DNA to N-ethyl-N-nitrosourea. We study the consequence of the e-6G incorporation in DNA by X-ray crystallography. We have obtained crystals of the **modified** DNA dodecamer d(CGC(e-6G)AATTCGCG) and the unmodified d(CGCGAATTCGCG), complexed to the minor groove binding drug netropsin. The space group of both crystals is P2-12-12-1, isomorphous to other related dodecamer DNA crystals. The structures have been solved by the molecular replacement method and refined by the constrained least-squares procedure to R-factors of apprx 16% at resolution of apprx 2.5 ANG . The two independent e-6G-C base pairs in the DNA duplex adopt different base-pairing schemes. The e-6G4-C21 base pair has a configuration similar to the normal Watson-Crick base pair, except with one three-centered hydrogen bond pair and one direct hydrogen bond between e-6G4 and C21. In contrast, the e-6G16-C9 base pair adopts a wobble configuration. The ethyl group is in the proximal orientation (to N-7) in both base pairs. These observations enrich and support those found in the crystal structure of

-more-

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Display 10/9/6 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

d(CGC(e-6G)AATTCGCG), complexed to minor groove binding drugs Hoechst

33258 and Hoechst 33342 (Sriram et al. (1992) EMBO J. 11, 225-232). We suggest that a dynamic equilibrium between these two configurations for the e-6G-C base pair is likely and would present an ambiguous signal to the cellular transcription, replication, or repair mechanisms. In contrast, thymine can pair with e-6G in only one way, albeit imperfect, mimicking a Watson-Crick base pair. This may be a plausible explanation of why thymine is found preferentially incorporated across the e-6G during replication. In addition, we analyze the influence of the alkylation lesion on DNA and the molecular details of netropsin-DNA interaction. In the present two new netropsin complexes, the netropsin spans across five base pairs (starting halfway between C3-G22 and e-6G4-C21 base pairs and ending at T8-A17 base pair) in the narrow minor groove. This is in contrast to the earlier crystal structure of netropsin complexed with another DNA dodecamer having the same AATT central core sequence, d(CGCGAAT(br-5C)GCG) (Kopka et al. (1985) J. Mol. Biol. 272, 390-395). In the latter structure, the netropsin lies between ***G4***

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Display 10/9/6 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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-br-5C21 and br-5C9-G16 base pairs. Our structural analysis suggests that netropsin can occupy the minor groove in two orientations in the crystal, as in the case of the netropsin-d(CGCGATATCGCG) complex (Coll et al. (1990) Biochemistry 28, 1022-1029). Only a fraction of the amide nitrogens of netropsin form three centered hydrogen bonds with acceptor atoms of DNA in all structures.

REGISTRY NUMBERS: 51866-19-4: O6-ETHYLGUANINE; 1438-30-8D: NETROPSIN
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Toxicology; Tumor Biology
CHEMICALS & BIOCHEMICALS: O6-ETHYLGUANINE; NETROPSIN
MISCELLANEOUS TERMS: MINOR GROOVE BINDING; X-RAY CRYSTALLOGRAPHY
CONCEPT CODES:
10062 Biochemistry studies - Nucleic acids, purines and pyrimidines
10064 Biochemistry studies - Proteins, peptides and amino acids
10506 Biophysics - Molecular properties and macromolecules

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? d s10/3/11-80
Display 10/3/11 (Item 11 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0008298827 BIOSIS NO.: 199294000668
EFFECT OF MODIFICATION OF THE TRYPTOPHAN RESIDUES OF CYCLODEXTRIN GLUCANOTRANSFERASE WITH N BROMOSUCCINIMIDE ON THE ENZYME-CATALYSED HYDROLYSIS CLEAVAGE OF SOLUBLE STARCH AND CYCLOMALTOHEXAOSE
AUTHOR: OHNISHI M (Reprint); OTA U; ABE M; TONOMURA B; KUBOTA M
AUTHOR ADDRESS: LAB ENZYME CHEM, DEP FOOD SCI TECHNOLOGY, COLL AGRIC, UNIV, KYOTO, SAKYO-WARD, KYOTO CITY, KYOTO 606, JAPAN**JAPAN
JOURNAL: Carbohydrate Research 227 p285-291 1992
ISSN: 0008-6215
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

- end of record -

? d s10/9/11-80
Display 10/9/11 (Item 11 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

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0008298827 BIOSIS NO.: 199294000668
EFFECT OF MODIFICATION OF THE TRYPTOPHAN RESIDUES OF CYCLODEXTRIN GLUCANOTRANSFERASE WITH N BROMOSUCCINIMIDE ON THE ENZYME-CATALYSED HYDROLYSIS CLEAVAGE OF SOLUBLE STARCH AND CYCLOMALTOHEXAOSE
AUTHOR: OHNISHI M (Reprint); OTA U; ABE M; TONOMURA B; KUBOTA M
AUTHOR ADDRESS: LAB ENZYME CHEM, DEP FOOD SCI TECHNOLOGY, COLL AGRIC, UNIV, KYOTO, SAKYO-WARD, KYOTO CITY, KYOTO 606, JAPAN**JAPAN
JOURNAL: Carbohydrate Research 227 p285-291 1992
ISSN: 0008-6215
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Four tryptophan residues in cyclomalto-oligosaccharide (cycloamylose, cyclodextrin) glucanotransferase (CGTase) from Bacillus stearothermophilus were **modified** with N-bromosuccinimide (NBS), one

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Display 10/9/11 (Item 11 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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of which ("Trp4") was markedly less reactive than the others. The modification of Trp4 by NBS corresponded with inactivation of the CGTase-catalysed hydrolysis of cyclomaltohexoase (CG6). Trp4 was protected against NBS by glucose and the maltosaccharides G2-**G4**, which indicates Trp4 to be located at the substrate binding site of CGTase.

REGISTRY NUMBERS: 54-12-6Q: TRYPTOPHAN; 73-22-3Q: TRYPTOPHAN; 9030-09-5: CYCLODEXTRIN GLUCANOTRANSFERASE; 128-08-5: N-BROMOSUCCINIMIDE; 9005-25-8: STARCH; 10016-20-3: CYCLOMALTOHEXAOSE
DESCRIPTORS: BACILLUS-STEAROTHERMOPHILUS PHARMACEUTICAL APPLICATION INDUSTRIAL APPLICATION METHOD
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Enzymology--Biochemistry and Molecular Biophysics; Physiology
BIOSYSTEMATIC NAMES: Endospore-forming Gram-Positives--Eubacteria, Bacteria, Microorganisms

-more-

?
Display 10/9/11 (Item 11 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.
COMMON TAXONOMIC TERMS: Bacteria; Eubacteria; Microorganisms
CHEMICALS & BIOCHEMICALS: TRYPTOPHAN; TRYPTOPHAN; CYCLODEXTRIN GLUCANOTRANSFERASE; N-BROMOSUCCINIMIDE; STARCH; CYCLOMALTOHEXAOSE
CONCEPT CODES:
10058 Biochemistry methods - Carbohydrates
10064 Biochemistry studies - Proteins, peptides and amino acids
10068 Biochemistry studies - Carbohydrates
10804 Enzymes - Methods
10806 Enzymes - Chemical and physical
31000 Physiology and biochemistry of bacteria
BIOSYSTEMATIC CODES:
07810 Endospore-forming Gram-Positives

- end of record -

?
Display 10/9/12 (Item 12 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)
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0008209206 BIOSIS NO.: 199293052097
CLONING OF THE CELB GENE ENCODING ENDO-1 4-BETA GLUCANASE-2 FROM CLOSTRIDIUM-JOSUI IN ESCHERICHIA-COLI AND THE PROPERTIES OF THE TRANSLATED PRODUCT
AUTHOR: FUJINO T (Reprint); OHMIYA K
AUTHOR ADDRESS: FAC BIORESOUR, MIE UNIV, KAMIHAMA-CHO, TSU 514, JPN**JAPAN
JOURNAL: Journal of Fermentation and Bioengineering 72 (6): p422-425 1991
ISSN: 0922-338X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The gene celB on a 3.9-kilobase-pair (kbp) EcoRI fragment encoding endo-1,4-β-glucanase of Clostridium josui was cloned into Escherichia coli. The structural gene located on the 1.6 kbp Sau3AI fragment excised from the EcoRI fragment was expressed by the lac

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Display 10/9/12 (Item 12 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.
promoter in the transformant E. coli JM103 (pUCJ2) in ***modified*** Luria-Bertani broth with an activity 1,000 times (1120 U/l) higher than that on the EcoRI fragmet. The translation product of celB in pUCJ2 was purified by CM Bio-Gel A column chromatography. The homogeneous enzyme was 42 kD of the molecular weight by sodium dodecyl sulfate-polyacrylamide gel electrophoresis. The optima for the temperature and pH of the enzyme were 60°C and 5.5, respectively. The enzyme hydrolyzed cellotetraose, cellopentaose and cellohexaose but not cellobiose and cellotriose. The mode of degradation of cellooligomers (***G4*** →2G2, G5→G2+G3, G6→2G3) of the enzymes suggested that it act as an endo-1,4-β-glucanase. This endoglucanase is distinguishable from those characterized by us previously with respect to its pH optimum and cellobiose-transferring activity.

DESCRIPTORS: BACTERIA MICROORGANISM GENETIC ENGINEERING PROMOTER TEMPERATURE PH BIOTECHNOLOGY INDUSTRY
DESCRIPTORS:

-more-

?
Display 10/9/12 (Item 12 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Bioprocess Engineering; Enzymology--Biochemistry and Molecular Biophysics; Genetics; Metabolism; Molecular Genetics--Biochemistry and Molecular Biophysics; Physiology
BIOSYSTEMATIC NAMES: Enterobacteriaceae--Facultatively Anaerobic Gram-Negative Rods, Eubacteria, Bacteria, Microorganisms; Endospore-forming Gram-Positives--Eubacteria, Bacteria, Microorganisms
COMMON TAXONOMIC TERMS: Bacteria; Eubacteria; Microorganisms
CONCEPT CODES:
10010 Comparative biochemistry
10060 Biochemistry studies - General
10062 Biochemistry studies - Nucleic acids, purines and pyrimidines
10300 Replication, transcription, translation
10506 Biophysics - Molecular properties and macromolecules
10618 External effects - Temperature as a primary variable - hot

10806 Enzymes - Chemical and physical
10808 Enzymes - Physiological studies

-more-

?
Display 10/9/12 (Item 12 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

13012 Metabolism - Proteins, peptides and amino acids
13014 Metabolism - Nucleic acids, purines and pyrimidines
30500 Morphology and cytology of bacteria
31000 Physiology and biochemistry of bacteria
31500 Genetics of bacteria and viruses
39007 Food microbiology - Biosynthesis, bioassay and fermentation
BIOSYSTEMATIC CODES:
06702 Enterobacteriaceae
07810 Endospore-forming Gram-Positives

- end of record -

?
Display 10/9/13 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0008166759 BIOSIS NO.: 199293009650
DETERMINATION OF KINETIC PARAMETERS FOR MALTOTRIOSE AND HIGHER MALTO-OLIGOSACCHARIDES IN THE REACTIONS CATALYZED BY ALPHA-D GLUCAN PHOSPHORYLASE FROM POTATO
AUTHOR: SUGANUMA T (Reprint); KITAZONO J-I; YOSHINAGA K; FUJIMOTO S; NAGAHAMA T
AUTHOR ADDRESS: DEP BIOCHEMICAL SCIENCE TECHNOLOGY, FACULTY AGRICULTURE, KAGOSHIMA UNIV, KAGOSHIMA 890**JAPAN
JOURNAL: Carbohydrate Research 217 p213-220 1991
ISSN: 0008-6215
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: For kinetic studies on its synthetic and **phosphorolytic** reactions, α-D-glucan phosphorylase from pototoes was purified

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Display 10/9/13 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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chromatographically until free of D-enzyme. Purified maltotriose (G3) is a poor primer in the phosphorylase-catalyzed synthetic reaction, showing an anomalous time course and making previous attempts to determine its kinetic parameters unsuccessful. In the present work the tru rate of the G3-primed reaction was obtained from linear plots obtained by incorporating a sufficient quantity of β-amylase in the digest to eliminate the more rapidly reacting ***G4*** formed from the G3. A Km value of 9.4 ± 0.8 mM from G3 was calculated from the data by a nonlinear least-squares methods. Kinetic parameters for a series of higher malto-oligosaccharides (**G4**-G8) were also determined in both the synthetic and the ***phosphorolytic*** directions. A large change in the values of Km and V/e was seen on going from G3 to **G4** for the synthetic reaction, and from ***G4*** to G5 for the ***phosphorolytic*** . For the higher saccharides the V/e values do not vary strongly with increasing d.p., while the Km values tend to decrease, as has seen in the reactions of other plant phosphorylases.

-more-

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Display 10/9/13 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.
REGISTRY NUMBERS: 1109-28-0: MALTOTRIOSE; 9035-74-9: EC 2.4.1.1; 9000-91-3: BETA-AMYLASE
DESCRIPTORS: EC 2.4.1.1 BETA AMYLASE
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Enzymology--Biochemistry and Molecular Biophysics
BIOSYSTEMATIC NAMES: Solanaceae--Dicotyledones, Angiospermae, Spermatophyta, Plantae
COMMON TAXONOMIC TERMS: Angiosperms; Dicots; Plants; Spermatophytes; Vascular Plants
CHEMICALS & BIOCHEMICALS: MALTOTRIOSE; EC 2.4.1.1; BETA-AMYLASE
CONCEPT CODES:
10064 Biochemistry studies - Proteins, peptides and amino acids
10068 Biochemistry studies - Carbohydrates
10806 Enzymes - Chemical and physical
10808 Enzymes - Physiological studies
51518 Plant physiology - Enzymes

-more-

?

Display 10/9/13 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.
BIOSYSTEMATIC CODES:
26775 Solanaceae

- end of record -

?

Display 10/9/14 (Item 14 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0007869395 BIOSIS NO.: 199192115166
SIZE AND CHARGE ISOMERS OF ACETYLCHOLINESTERASE IN THE CEREBRAL CORTEX OF YOUNG AND AGED RATS
AUTHOR: BISSO G M (Reprint); BRIANCESCO R; MICHALEK H
AUTHOR ADDRESS: LAB PHARMACOL, IST SUPERIORE SANITA, VIALE REGINA ELENA 299, 00161 ROMA, ITALY**ITALY
JOURNAL: Neurochemical Research 16 (5): p571-576 1991
ISSN: 0364-3190
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Previous studies in this laboratory showed an age-related decline of acetylcholinesterase (AChE) activity in the cerebral cortex of rats. In the present study the age-related differences in enzymatic activity were evaluated in terms of individual molecular forms. Extracts

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Display 10/9/14 (Item 14 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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containing total, soluble and membrane-bound AChE were analyzed both by ultracentrifugation in sucrose gradient and by non-denaturing gradient polyacrylamide gel electrophoresis. By ultracentrifugation two molecular forms, namely 10S and 4S (corresponding to tetrameric-**G4** and

monomeric-G1 forms, respectively) were separated in extracts of total and soluble AChE, while only 10S forms were present in extracts of membrane-bound AChE. Electrophoresis of soluble AChE extracts revealed slowly- and fast-migrating bands, grouped in two clusters of at least three bands each; membrane-bound AChE contained only a single slowly-migrating band. Electrophoresis of the single forms isolated by ultracentrifugation showed that slowly- and fast-migrating bands corresponded to ***G4*** and G1 forms, respectively. Therefore, in soluble AChE no one-to-one relationship between charge- and size-isomers was observed; on the contrary, such relationship has been shown for membrane-bound AChE. This implies that soluble ***G4*** forms and membrane-bound-**G4** forms are electrophoretically different, being heterogeneous the former and homogeneous the latter. The age-related

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decline of total AChE, accompanied by a decrease of **G4**/G1 ratio, depended mainly on a decrease of membrane-bound AChE while soluble AChE and its ***G4*** /G1 ratio was unchanged. The qualitative pattern of charge isomers was not ***modified*** by aging.

REGISTRY NUMBERS: 9000-81-1: ACETYLCHOLINESTERASE; 9000-81-1: EC 3.1.1.7; 9003-05-8: POLYACRYLAMIDE
DESCRIPTORS: EC 3.1.1.7 TETRAMERIC FORM MONOMERIC FORM NON-DENATURING GRADIENT POLYACRYLAMIDE GEL ELECTROPHORESIS
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Development; Enzymology--Biochemistry and Molecular Biophysics; Membranes--Cell Biology; Nervous System--Neural Coordination
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Chordates; Mammals; Nonhuman Vertebrates ; Nonhuman Mammals; Rodents; Vertebrates

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DIALOG(R)File 5:Biosis Previews(R)

CHEMICALS & BIOCHEMICALS: ACETYLCHOLINESTERASE; EC 3.1.1.7; POLYACRYLAMIDE
CONCEPT CODES:
10060 Biochemistry studies - General
10064 Biochemistry studies - Proteins, peptides and amino acids
10504 Biophysics - Methods and techniques
10506 Biophysics - Molecular properties and macromolecules
10508 Biophysics - Membrane phenomena
10804 Enzymes - Methods
10806 Enzymes - Chemical and physical
20504 Nervous system - Physiology and biochemistry
25508 Development and Embryology - Morphogenesis
BIOSYSTEMATIC CODES:
86375 Muridae

- end of record -

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Display 10/9/15 (Item 15 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0007762015 BIOSIS NO.: 199192007786
REGULATION OF THE EXPRESSION OF ACETYLCHOLINESTERASE BY MUSCULAR ACTIVITY IN AVIAN PRIMARY CULTURES
AUTHOR: VALLETTE F-M (Reprint); MASSOULIE J
AUTHOR ADDRESS: LAB NEUROBIOL, ECOLE NORMALE SUPERIEURE, CNRS, UA 295, 46 RUE D'ULM, 75005 PARIS, FR**FRANCE
JOURNAL: Journal of Neurochemistry 56 (5): p1518-1525 1991
ISSN: 0022-3042
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Primary cultures of avian muscle cells express both globular and asymmetric molecular forms of acetylcholinesterase (AChE) when grown in a simple defined culture medium. Under these conditions, we analyzed the role of various agents interfering with muscular activity: tetrodotoxin

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(TTX) and veratridine, as well as a depolarizing concentration of KCl. These treatments caused the complete cessation of contractions in mature myotubes. We observed no influence on cellular AChE activity. The paralyzing treatments induced different effects on AChE secretion: TTX increased the secretion by .apprx. 25%, whereas KCl and veratridine reduced it by .apprx. 30%. The proportions of secreted molecular forms (mostly hydrophilic **G4** and G2) ere not **modified** significantly. TTX did not affect the pattern of molecular forms of cellular AChE (in particular, the proportion of A forms was not changed). Depolarization by veratridine or KCl induced an increase in the proportion of A forms in mature myotubes by a factor of 2-3. Similar results were obtained with quail myotubes cultured under the same conditions. This study shows that, in avian muscle cultures, the ionic balance across myotube membranes, rather than muscular activity per se, can regulate the level of A forms and the rate of AChE secretion. These results do not exclude the possible involvement of other factors, such as Ca2+ and/or peptidic factors. In addition, taking together our results

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and data from the literature, we conclude that the expression of AChE molecular forms depends both on the species and on the culture conditions used.

REGISTRY NUMBERS: 9000-81-1: ACETYLCHOLINESTERASE; 9000-81-1: EC 3.1.1.7; 7447-40-7: POTASSIUM CHLORIDE; 4368-28-9: TETRODOTOXIN; 71-62-5: VERATRIDINE
DESCRIPTORS: EC 3.1.1.7 POTASSIUM CHLORIDE TETRODOTOXIN VERATRIDINE DEPOLARIZATION
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; Enzymology--Biochemistry and Molecular Biophysics; Membranes--Cell Biology; Methods and Techniques; Muscular System--Movement and Support; Nervous System--Neural Coordination
BIOSYSTEMATIC NAMES: Aves--Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Birds; Chordates; Nonhuman Vertebrates; Vertebrates

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DIALOG(R)File 5:Biosis Previews(R)

CHEMICALS & BIOCHEMICALS: ACETYLCHOLINESTERASE; EC 3.1.1.7; POTASSIUM CHLORIDE; TETRODOTOXIN; VERATRIDINE
CONCEPT CODES:
02506 Cytology - Animal
10060 Biochemistry studies - General
10064 Biochemistry studies - Proteins, peptides and amino acids
10069 Biochemistry studies - Minerals
10508 Biophysics - Membrane phenomena
10808 Enzymes - Physiological studies
17504 Muscle - Physiology and biochemistry
20501 Nervous system - General and methods
20504 Nervous system - Physiology and biochemistry
32500 Tissue culture, apparatus, methods and media
BIOSYSTEMATIC CODES:
85500 Aves

- end of record -

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Display 10/9/16 (Item 16 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0007761768 BIOSIS NO.: 199192007539
INFLUENCE OF INNERVATION ON MOLECULAR FORMS OF ACETYLCHOLINESTERASE IN REGENERATING FAST AND SLOW SKELETAL MUSCLES
AUTHOR: CRNE N (Reprint); SKETELJ J; BRZIN M
AUTHOR ADDRESS: INST PATHOPHYSIOLOGY, 61105 LJUBLJANA, YUGOSLAVIA**
YUGOSLAVIA
JOURNAL: Journal of Neuroscience Research 28 (3): p315-323 1991
ISSN: 0360-4012
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Nerve-intact muscle regenerates were prepared by ischemic-toxic injury of slow soleus (SOL) and fast extensor digitorum longus (EDL) muscles of the rat. Rapid inervation of regenerating myotubes **modified** intrinsic patterns of AChE molecular forms, revealed by

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DIALOG(R)File 5:Biosis Previews(R)

velocity sedimentation in linear sucrose gradients. Regarding their onset, the effects of innervation can be classified as early and late. The earliest changes in the SOL regenerates appeared a few days after innervation by their motoneurons: the activity of the 13 S AChE form (A8) increased significantly in comparison to non-innervated regenerates. The pattern of AChE molecular forms became similar to that in the normal SOL muscle during the 2nd week after injury. In contrast, no major differences were observed between 8 day-old innervated and non-innervated EDL regenerates. Their patterns of AChE molecular forms resembled that in the normal EDL. However, the predominance of the 10 S AChE form (***G4***) characteristic for the 2-week old non-innervated regenerates was prevented by innervation. Early effect of innervation observed in the SOL regenerates but not in the EDL may be due to intrinsically different response of the regenerating SOL myotubes to innervation. Rather high

extrajunctional activity of the asymmetric 16 S (A 12) molecular form of AChE in early regenerates was reduced to adult level in about 3 weeks in the SOL, and nearly completely suppressed on 5 weeks after innervation in

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DIALOG(R)File 5:Biosis Previews(R)

the EDL regenerates. This reduction is assumed to be a late effect of innervation, as well as a decrease of the activity of the 4 S AChE from (G 1) in the SOL regenerates. A suppressive mechanism is activated in the extrajunctional regions of the innervated muscle regenerates during their maturation. This mechanism counteracts the enhancing influence of contractile activity on the expression of the asymmetric AChE forms in immature muscle cells, and is more efficient in the EDL than in the SOL. Its onset may be apparently delayed by protracted fusion of the satellite cells with muscle fibers.

REGISTRY NUMBERS: 9000-81-1: ACETYLCHOLINESTERASE
DESCRIPTORS: RAT NERVE-MUSCLE INTERACTION MUSCLE REGENERATION HISTOLOGY
DESCRIPTORS:
MAJOR CONCEPTS: Cell Biology; Endocrine System--Chemical Coordination and Homeostasis; Enzymology--Biochemistry and Molecular Biophysics; Muscular System--Movement and Support; Nervous System--Neural Coordination; Physiology

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DIALOG(R)File 5:Biosis Previews(R)

BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Chordates; Mammals; Nonhuman Vertebrates ; Nonhuman Mammals; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: ACETYLCHOLINESTERASE
CONCEPT CODES:
01056 Microscopy - Histology and histochemistry
02506 Cytology - Animal
10064 Biochemistry studies - Proteins, peptides and amino acids
10808 Enzymes - Physiological studies
11107 Anatomy and Histology - Regeneration and transplantation
17020 Endocrine - Neuroendocrinology
17504 Muscle - Physiology and biochemistry
20504 Nervous system - Physiology and biochemistry
BIOSYSTEMATIC CODES:
86375 Muridae

- end of record -

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DIALOG(R)File 5:Biosis Previews(R)

0007680372 BIOSIS NO.: 199191063263
STEREOSELECTIVE FORMATION OF IN-VITRO NUCLEIC ACID ADDUCTS BY 2 3 EPOXY-4-HYDROXYNONANAL
AUTHOR: SODUM R S (Reprint); CHUNG F-L
AUTHOR ADDRESS: DIV CHEM CARCINOGENESIS, AMERICAN HEALTH FOUNDATION, 1 DANA RD, VALHALLA, NY 10595, USA**USA
JOURNAL: Cancer Research 51 (1): p137-143 1991
ISSN: 0008-5472

DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: This paper describes the reactions of purine nucleosides and nucleic acids with 2,3-epoxy-4-hydroxynonanal. 2,3-Epoxy-4-hydroxynonanal was produced with tert-butyl hydroperoxide by epoxidation of trans-4-hydroxy-2-nonenal, a lipid peroxidation product. The epoxy

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aldehyde exists as a pair of diastereomers, I and II. Because these isomers could not be completely separated under the chromatographic conditions, used reactions were carried out with a mixture of known proportions of isomers I and II. Reaction of adenine nucleosides with the epoxy aldehyde yielded diastereomers A1 and A2, which structures were assigned on the basis of their spectroscopic data and by chemical synthesis as 1,N6-etheno adducts possessing a heptyl group at C8. These adducts were formed from isomers I and II in a stereoselective manner. Isomer I appeared to be responsible for the formation of A2, whereas isomer II favored the production of A1. Stereoselectivity of isomers I and II was also observed upon reaction with guanine nucleosides in the formation of adducts G1, G2, G3, ***G4*** , G5, and G6. G2, G3, G5, and G6 were unstable in base and could be converted quantitatively to G1. The structures of these adducts were reported (Sodum, R. S., and Chung, F-L. Chemical Res. Toxicol., 2: 23-28, 1989). G5 and G6 were the products formed predominantly from reactions in which isomer I was in excess, whereas G1 and **G4** were the major products in reactions enriched with isomer

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II. Incubation of DNA with the epoxy aldehyde at 37° and pH 7.0 yielded a **modified** DNA containing 1,N2-ethenodeoxyguanosine (G1) at levels of 10 pmol/mg DNA. Although G2, G3, G5, and G6 were not readily detected in this DNA hydrolysate, base conversion of fractions corresponding to these adducts to G1 indicated that the total yield of these adducts was equivalent to approximately 20% of that of G1. A1 and A2 were not found in this DNA. Contrary to the reactions with native DNA, reactions of single-stranded DNA resulted in the formation of primarily A1 and A2, with a total adduct level of 30 nmol/mg DNA. In this DNA, the yield of guanine adducts was relatively small, estimated at 0.73 nmol/mg DNA based on conversion to G1. RNA was extensively ***modified*** by the epoxy aldehyde, yielding both adenine and guanine nucleosides. The levels of adenine nucleoside adducts formed in RNA were greater than 50 nmol/mg RNA. The yields of guanine nucleoside adducts were 7.0 and 50 nmol/mg RNA depending on the proportion of isomers I and II in the reaction. Although isomer II showed a comparable reactivity for adenine and guanine nucleosides in RNA, isomer I seemed to be more reactive toward adenine

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than toward guanine, yielding levels of adenine adducts at least 7-fold greater than those of guanine adducts. Stereoselectivity of isomers I and II similar to that observed with monomers was also demonstrated with

nucleic acids.

DESCRIPTORS: CARCINOGEN RNA DNA
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Toxicology; Tumor Biology
CONCEPT CODES:
10050 Biochemistry methods - General
10052 Biochemistry methods - Nucleic acids, purines and pyrimidines
10056 Biochemistry methods - Lipids
10060 Biochemistry studies - General
10062 Biochemistry studies - Nucleic acids, purines and pyrimidines
10066 Biochemistry studies - Lipids
10506 Biophysics - Molecular properties and macromolecules

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DIALOG(R)File 5:Biosis Previews(R)

22501 Toxicology - General and methods
24006 Neoplasms - Biochemistry
24007 Neoplasms - Carcinogens and carcinogenesis
32600 In vitro cellular and subcellular studies

- end of record -

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Display 10/9/18 (Item 18 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0007330678 BIOSIS NO.: 199090115157
USE OF CONDUCTANCE TO DETECT BACTERIOCIN ACTIVITY
AUTHOR: GIRAFFA G (Reprint); NEVIANI E; VENERONI A
AUTHOR ADDRESS: IST SPER LATT CASEARIO, VIA LOMBARDO 11, 20075 LODI, ITALY **ITALY
JOURNAL: Journal of Food Protection 53 (9): p772-776 1990
ISSN: 0362-028X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The inhibitory activity of a bacteriocin produced by Lactobacillus delbrueckii subsp. lactis ***G4*** (Bac+) in link was investigated by using conductivity measurements. The bacteriocin showed an inhibitory action toward some strains belonging to L. delbrueckii subsp. bulgaricus species. A delay in detection time (δ DT) of two

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milk cultures sensitive to bacteriocin, grown in the presence of preformed bacteriocin, was observed. An inactivation as well as a **modified** growth rate of the sensitive cultures due to bacteriocin activity might explain the δ DT, as indicated by longer generation time (tg). Cells showed the highest sensitivity to bacteriocin during the log phase of growth that corresponded to the beginning of the acceleration of the conductance curve (DT).

DESCRIPTORS: LACTOBACILLUS-DELBRUECKII-SSP-LACTIS
LACTOBACILLUS-DELBRUECKII-SSP-BULGARICUS INHIBITORY ACTIVITY GENERATION

TIME GROWTH PHASE
DESCRIPTORS:
  MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; Metabolism; Methods and Techniques; Physiology
  BIOSYSTEMATIC NAMES: Regular Nonsporing Gram-Positive Rods--Eubacteria, Bacteria, Microorganisms
  COMMON TAXONOMIC TERMS: Bacteria; Eubacteria; Microorganisms

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      Display 10/9/18   (Item 18 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)

CONCEPT CODES:
  01004 Methods - Laboratory methods
  10054 Biochemistry methods - Proteins, peptides and amino acids
  10064 Biochemistry studies - Proteins, peptides and amino acids
  10502 Biophysics - General
  10504 Biophysics - Methods and techniques
  13012 Metabolism - Proteins, peptides and amino acids
  30500 Morphology and cytology of bacteria
  31000 Physiology and biochemistry of bacteria
  32000 Microbiological apparatus, methods and media
  36002 Medical and clinical microbiology - Bacteriology
  39500 Disinfection, disinfectants and sterilization
BIOSYSTEMATIC CODES:
  07830 Regular Nonsporing Gram-Positive Rods

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      Display 10/9/19   (Item 19 from file: 5)
DIALOG(R)File   5:Biosis Previews(R)

0007289134   BIOSIS NO.: 199090073613
ROLE OF RAT INTESTINAL GLUCOAMYLASE IN GLUCOSE POLYMER HYDROLYSIS AND ABSORPTION
AUTHOR: AZAD M A K (Reprint); LEBENTHAL E
AUTHOR ADDRESS: INT INST INFANT NUTRITION AND GASTROINTESTINAL DISEASE, DEP PEDIATRICS, HAHNEMANN UNIV, BROAD AND VINE, PHILADELPHIA, PA 19102-1192, USA**USA
JOURNAL: Pediatric Research 28 (2): p166-170 1990
ISSN: 0031-3998
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Rice starch is a main source of energy in many lesser developed countries. We studied different chain-lengths of rice glucose polymers (GP) to evaluate their possible use in feeding infants in developing

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countries. The initial GP of rice (G1 = 4.6, G2 = 4.5, G3 = 15.4, ***G4*** = 7.3, G5 = 17.4, G6-G9 = 9.61 and >G9 = 31.3%) was analyzed by HPLC and then separated in a Bio-Gel P-2 column and compared to its short-chain GP of rice (G2 = 22.7, G3 = 28.2, ***G4*** = 14.0, G5 = 16.6, G6 = 11.6, G7-G9 = 6.9%), long-chain GP of rice (> G9 = 100%), and D-glucose. Intraduodenal bolus infusion of 10% solution of short-chain rice GP when compared with long-chain rice GP, the initial rice GP, or

D-glucose showed significantly higher values at peak absorption time (0 to 30 min) in the portal venous blood glucose response. The portal venous glycemic response of short-chain rice GP compared with D-glucose was as follows: 2.5 ± 0.1 versus 2.0 ± 0.2 cm2, area under the portal blood glucose curve at 0-30 min ($p < 0.01$). Glucoamylase, the key enzyme for brush-border hydrolysis of short-chain GP, was assessed with a newly ***modified*** glucoamylase assay using GP G5-G8 as substrate. Our finding of faster glucose absorption with short-chain rice GP compared with isocaloric D-glucose might have important physiologic implications for carbohydrate absorption. The osmolality of short-chain rice GP is

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nearly one-fourth that of glucose. This might have important bearing in the design of infant feeding where increased caloric density with low osmolality is desirable.

REGISTRY NUMBERS: 9032-08-0: GLUCOAMYLASE; 25191-16-6: GLUCOSE POLYMER; 50-99-7Q: GLUCOSE; 58367-01-4Q: GLUCOSE; 9005-25-8: STARCH
DESCRIPTORS: BLOOD GLUCOSE LEVEL RICE STARCH OSMOLALITY INFANT FEEDING
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Blood and Lymphatics--Transport and Circulation; Development; Digestive System--Ingestion and Assimilation; Enzymology--Biochemistry and Molecular Biophysics; Foods; Metabolism; Nutrition
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Chordates; Mammals; Nonhuman Vertebrates ; Nonhuman Mammals; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: GLUCOAMYLASE; GLUCOSE POLYMER; GLUCOSE;

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DIALOG(R)File 5:Biosis Previews(R)

GLUCOSE; STARCH
CONCEPT CODES:
10011 Biochemistry - Physiological water studies
10068 Biochemistry studies - Carbohydrates
10506 Biophysics - Molecular properties and macromolecules
10808 Enzymes - Physiological studies
12512 Pathology - Therapy
13004 Metabolism - Carbohydrates
13218 Nutrition - Prophylactic and therapeutic diets
13220 Nutrition - Carbohydrates
13510 Food technology - Cereal chemistry
14004 Digestive system - Physiology and biochemistry
15002 Blood - Blood and lymph studies
25000 Pediatrics
BIOSYSTEMATIC CODES:
86375 Muridae

- end of record -

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Display 10/9/20 (Item 20 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0007243617 BIOSIS NO.: 199090028096

NMR STUDIES OF AN EXOCYCLIC 1 N-2 PROPANODEOXYGUANOSINE ADDUCT X LOCATED OPPOSITE DEOXYADENOSINE A IN DNA DUPLEXES AT BASIC PH SIMULTANEOUS PARTIAL INTERCALATION OF X AND A BETWEEN STACKED BASES
AUTHOR: KOUCHAKDJIAN M (Reprint); EISENBERG M; LIVE D; MARINELLI E; GROLLMAND A P; PATEL D J
AUTHOR ADDRESS: DEPPHARMACOL SCI, STATE UNIV NEW YORK STONY, STONY BROOK, NY 11794, USA**USA
JOURNAL: Biochemistry 29 (18): p4456-4465 1990
ISSN: 0006-2960
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The NMR parameters for the 1,N2-propanodeoxyguanosine (X) opposite deoxyadenosine positioned in the center of the complementary

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d(C1-A2-T3-C5-G6-T-A8-C9)·d(G10-T11-A12-C13-A14-C15-A16-T17-G18) X·A 9-mer duplex are pH dependent. A previous paper established protonated X5(syn)·A14(anti) pairing in the Z·A9-mer duplex at pH 5.8 [Kouchakdjian, M., Marinelli, E., Gao, X., Johnson, F., Grollman, A., Å Patel, D. J. (1989) biochemistry 28, 5647-5657]; this paper focuses on the pairing alignment at the lesion site at pH 8.9. The observed NOEs between specific exocyclic CH2 protons and both the imino proton of G6 and the sugar H1' protons of C13 and A14 establish that X5 is positioned toward the G6·C13 base pair with the exocyclic ring directed between C13 and A14 on the partner strand. The observed NOE between the H2 proton of A14 and the imino proton of **G4**, but not G6, establishes that A14 at the lesion site is directed toward the ***G4*** ·C15 base pair. NOEs are detected between all exocyclic CH2 protons of X5 and the H2 proton of A14, conforming that both X5 and A14 are directed toward the interior of the helix. The X5(anti)·A14(anti) (alignment at pH 8.9 is accommodated within the helix with retention of Watson-Crick pairing at flanking **G4**

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·C15 and G6·C13 base pairs. The energy-minimized conformation of the (***G4*** -X5-G6)·(C13-A14-C15) segment at pH 8.9 establishes that X5 and A14 are directed into the helix, partially stack on each other, and are not stabilized by intermolecular hydrogen bonds. The C5 base is partially intercalated between C13 and A14 on the unmodified strand, while A14 is partially intercalated between **G4** and X5 on the ***modified*** strand. This results in a larger separation between the ***G4*** ·C15 and G6·C13 base paris flanking the lesion site in the basic pH conformation of the X·A 9-mer duplex. The midpoint of the transition between the the protonated X5(syn)·A14(anti) and X5(anti·A14(anti) conformations occurs at pH 7.6, establishing an unusually high pKa for protonation of the A14 ring opposite the X5 exocyclic adduct site. Thus, the interplay between hydrophobic and hydrogen-bonding contributions modulated by pH defines the alignment of 1,N2-propanodexoxyguanosine opposite deoxyadenosine in the interior of DNA helices.

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DIALOG(R)File 5:Biosis Previews(R)

REGISTRY NUMBERS: 958-09-8: DEOXYADENOSINE
DESCRIPTORS: DNA HELICES
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics
CHEMICALS & BIOCHEMICALS: DEOXYADENOSINE
CONCEPT CODES:
03502 Genetics - General
10052 Biochemistry methods - Nucleic acids, purines and pyrimidines
10062 Biochemistry studies - Nucleic acids, purines and pyrimidines
10504 Biophysics - Methods and techniques
10506 Biophysics - Molecular properties and macromolecules

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Display 10/9/21 (Item 21 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0007189219 BIOSIS NO.: 199089107110
ACETYLCHOLINESTERASE IN COCULTURES OF RAT MYOTUBES AND SPINAL CORD NEURONS
EFFECTS OF COLLAGENASE AND CIS HYDROXYPROLINE ON MOLECULAR FORMS
INTRACELLULAR AND EXTRACELLULAR DISTRIBUTION AND FORMATION OF PATCHES AT NEUROMUSCULAR CONTACTS
AUTHOR: VALLETTE F-M (Reprint); DE LA PORTE S; KOENIG J; MASSOULIE J; VIGNY M
AUTHOR ADDRESS: LAB NEUROBIOL, ECOLE NORMALE SUPERIEURE, 46 D'ULM, 75230 PARIS CEDEX 05, FRANCE**FRANCE
JOURNAL: Journal of Neurochemistry 54 (3): p915-923 1990
ISSN: 0022-3042
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Cultures of rat myotubes from 18-day-old embryos produce both

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Display 10/9/21 (Item 21 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

globular (G) and asymmetric (A) forms of acetylcholinesterase (AChE; EC 3.1.1.7), mostly G1, ***G4*** , and A12 and a small proportion of A8. We show that all forms are partly intracellular and partly exposed to the extracellular medium; the A forms and their intra- and extracellular distribution are not **modified** when myotubes are grown in the presence of spinal cord neurons. In these cocultures, however, AChE patches may be detected immunohistochemically at sites of neuromuscular contacts. These patches represent a very minor proportion of AChE activity. We found that collagenase removes AChE patches but not the acetylcholine receptor clusters with which they coincide. This digestion specifically decreases the level of the A12 form, cis-Hydroxyproline, an inhibitor of collagen synthsis, reduces the level of G1 and blocks the synthesis of A forms.

REGISTRY NUMBERS: 9000-81-1: ACETYLCHOLINESTERASE; 9001-12-1: COLLAGENASE; 618-27-9: CIS-HYDROXYPROLINE; 51-84-3: ACETYLCHOLINE
DESCRIPTORS: EMBRYO ACETYLCHOLINE RECEPTOR COLLAGEN SYNTHESIS

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Display 10/9/21 (Item 21 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

IMMUNOHISTOCHEMISTRY
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; Development; Enzymology--Biochemistry and Molecular Biophysics; Immune System--Chemical Coordination and Homeostasis; Membranes--Cell Biology; Metabolism; Morphology; Muscular System--Movement and Support; Nervous System--Neural Coordination
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Chordates; Mammals; Nonhuman Vertebrates ; Nonhuman Mammals; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: ACETYLCHOLINESTERASE; COLLAGENASE; CIS-HYDROXYPROLINE; ACETYLCHOLINE
CONCEPT CODES:
01052 Microscopy - General and special techniques
02506 Cytology - Animal
10064 Biochemistry studies - Proteins, peptides and amino acids

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Display 10/9/21 (Item 21 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10506 Biophysics - Molecular properties and macromolecules
10508 Biophysics - Membrane phenomena
10806 Enzymes - Chemical and physical
10808 Enzymes - Physiological studies
11108 Anatomy and Histology - Microscopic and ultramicroscopic anatomy
13012 Metabolism - Proteins, peptides and amino acids
17501 Muscle - General and methods
17504 Muscle - Physiology and biochemistry
20501 Nervous system - General and methods
20502 Nervous system - Anatomy
20504 Nervous system - Physiology and biochemistry
25502 Development and Embryology - General and descriptive
32500 Tissue culture, apparatus, methods and media
34502 Immunology - General and methods
BIOSYSTEMATIC CODES:
86375 Muridae

- end of record -

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Display 10/9/22 (Item 22 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0007158045 BIOSIS NO.: 199089075936
ENZYMIC AND PHYSICOCHEMICAL PROPERTIES OF AN EXO-1-3-BETA-D-GLUCANASE FROM RHIZOCTONIA-SOLANI
AUTHOR: OHNO N (Reprint); NONO I; YADOMAE T
AUTHOR ADDRESS: LABORATORY OF IMMUNOPHARMACOL MICROBIAL PRODUCTS, TOKYO COLL PHARMACY, HORINOUCHI, HACHIOJI, TOKYO 192-03, JAPAN**JAPAN
JOURNAL: Carbohydrate Research 194 p261-272 1989
ISSN: 0008-6215
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: An exo-(1 → 3)-β-D-glucanase, isolated from a commercial lytic enzyme preparation "kitalase", had mol. weight 74,000,

isoelectric point pH 8.1, optimum pH 5.6, optimum temperatures 53°, pH stability 5.0-8.0, and temperature stability up to

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Display 10/9/22 (Item 22 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

65°. The enzyme contained 703 amino acids, including 10 Cys, 7 Trp, 11 His, 83 Asp (Asn), and 51 Glu (Gln). The activity was inhibited on modification of the tryptophan, histidine, or carboxyl residues. Oxidation of Trp was inhibited by the addition of substrate. The enzyme released only glucose from a (1 → 3)-β-D-glucan, glucose and gentiobiose from a 6-branched (1 → 3)-β-D-glucan, and had no effect on gentiobiose and methyl α- and β-D-glucopyranosides. For the series of laminarioligosaccharides G3-G7, the relative velocities of reaction compared to that of laminarin were G7:G6:G5:**G4**:G3 = 77:65:54:34:3. The enzyme acted on the glucan that had the reducing end ***modified*** but not that with the non-reducing end ***modified*** . The glucose residues liberated were α. The enzyme is suitable for use in the structural characterization of (1 → 3)-β-D-glucans.

DESCRIPTORS: MOLECULAR WEIGHT ISOELECTRIC POINT PH TEMPERATURE KITALASE LYTIC ENZYME
DESCRIPTORS:

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Display 10/9/22 (Item 22 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Enzymology--Biochemistry and Molecular Biophysics
BIOSYSTEMATIC NAMES: Fungi Imperfecti or Deuteromycetes--Fungi, Plantae
COMMON TAXONOMIC TERMS: Fungi; Microorganisms; Nonvascular Plants; Plants
CONCEPT CODES:
10054 Biochemistry methods - Proteins, peptides and amino acids
10058 Biochemistry methods - Carbohydrates
10064 Biochemistry studies - Proteins, peptides and amino acids
10068 Biochemistry studies - Carbohydrates
10506 Biophysics - Molecular properties and macromolecules
10808 Enzymes - Physiological studies
51518 Plant physiology - Enzymes
BIOSYSTEMATIC CODES:
15500 Fungi Imperfecti or Deuteromycetes

- end of record -

?
Display 10/9/23 (Item 23 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0006722723 BIOSIS NO.: 198988037838
A **G4**-DNA-B-DNA JUNCTION AT CODON 12 OF C-HA-RAS IS ACTIVELY AND ASYMMETRICALLY METHYLATED BY DNA-CYTOSINE-5-METHYLTRANSFERASE
AUTHOR: SMITH S S (Reprint); BAKER D J; JARDINES L A
AUTHOR ADDRESS: DIV SURG, CITY OF HOPE, 1500 E DUARTE RD, DUARTE, CALIF 91010, USA**USA
JOURNAL: Biochemical and Biophysical Research Communications 160 (3): p 1397-1402 1989
ISSN: 0006-291X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: Oligodeoxynucleotides spanning codon 12 of the human c-Ha-ras gene were found to be exceptionally good substrates for de novo methylation by human DNA (cytosine-5) methyltransferase. In the complex

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Display 10/9/23 (Item 23 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

formed by two complementary 30mers, ony the C-rich strand was methylated by the enzyme. Guanines at the 3' end of the G-rich strand of the complex could not be completely **modified** by dimethylsulfoxide suggesting tetrameric bonding at these G-residues. An eight-stranded structure, composed of four duplex DNAs at one end, joined to a **G4**-DNA segment at the other with the junction between the two DNA forms at codon 12, can account for our results.

REGISTRY NUMBERS: 9037-42-7: DNA-: CYTOSINE-5
DESCRIPTORS: HUMAN OLIGODEOXYNUCLEOTIDE GENE CODON SPAN TETRAMERIC BONDING
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Enzymology--Biochemistry and Molecular Biophysics; Genetics
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Chordates; Humans; Mammals; Primates; Vertebrates

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Display 10/9/23 (Item 23 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

CHEMICALS & BIOCHEMICALS: CYTOSINE-5
CONCEPT CODES:
03508 Genetics - Human
10062 Biochemistry studies - Nucleic acids, purines and pyrimidines
10064 Biochemistry studies - Proteins, peptides and amino acids
10506 Biophysics - Molecular properties and macromolecules
10808 Enzymes - Physiological studies
BIOSYSTEMATIC CODES:
86215 Hominidae

- end of record -

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Display 10/9/24 (Item 24 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0006689102 BIOSIS NO.: 198988004217
MEASUREMENT OF THE BINDING OF TRANSCRIPTION FACTOR SP1 TO A SINGLE GC BOX RECOGNITION SEQUENCE
AUTHOR: LETOVSKY J (Reprint); DYNAN W S
AUTHOR ADDRESS: DEP CHEM BIOCHEM, CAMPUS BOX 215, UNIV COLO, BOULDER, COLO 80309, USA**USA
JOURNAL: Nucleic Acids Research 17 (7): p2639-2654 1989
ISSN: 0305-1048
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: The equilibrium constant was determined for the binding of the

transcription factor Sp1 to a single consensus CG box DNA recognition site, (5'-GGGGCGGGGC-3'). For these experiments, single copies of the recognition site were synthesized and cloned in a standard plasmid

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Display 10/9/24 (Item 24 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

background. Binding was measured either by a footprinting assay **modified** so that the binding reaction was at equilibrium, or by a gel mobility shift assay. The concentration of active Sp1 in the reactions and the dissociation constant were determined by computer-assisted fitting to theoretical curves. Values for the dissociation constant obtained in different experiments ranged from 4.1 + 10-10 M to 5.3 + 10-10 M. Several variants of the consensus recognition site were also tested. An A-substituted variant (5' ***GGGG*** _AGGGGC-3') and a T-substituted variant (5'-**GGGG**_TGGGGC-3') were bound 3-fold and 6-fold more weakly than the consensus site, respectively. A G-substituted variant (5'- ***GGGG*** _GGGGGC-3') was bound at least 30-fold more weakly than the consensus site. These findings help distinguish between alternative models for Sp1-DNA recognition. They are consistent with the presence of specific hydrogen-bond contacts between Sp1 and the central C-G base pair, but provide no particular evidence to support a model where local DNA structure is the dominant factor in the interaction

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Display 10/9/24 (Item 24 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

DESCRIPTORS: HELA CELLS
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Molecular Genetics--Biochemistry and Molecular Biophysics
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Chordates; Humans; Mammals; Primates; Vertebrates
CONCEPT CODES:
00530 General biology - Information, documentation, retrieval and computer applications
02508 Cytology - Human
03508 Genetics - Human
10052 Biochemistry methods - Nucleic acids, purines and pyrimidines
10054 Biochemistry methods - Proteins, peptides and amino acids
10062 Biochemistry studies - Nucleic acids, purines and pyrimidines

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Display 10/9/24 (Item 24 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10064 Biochemistry studies - Proteins, peptides and amino acids
10300 Replication, transcription, translation
10504 Biophysics - Methods and techniques
10506 Biophysics - Molecular properties and macromolecules
13014 Metabolism - Nucleic acids, purines and pyrimidines
32500 Tissue culture, apparatus, methods and media
BIOSYSTEMATIC CODES:
86215 Hominidae

- end of record -

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Display 10/9/25 (Item 25 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0006592348 BIOSIS NO.: 198987040239
REDUCED AXONAL TRANSPORT OF THE **G4** MOLECULAR FORM OF ACETYLCHOLINESTERASE IN THE RAT SCIATIC NERVE DURING AGING
AUTHOR: GOEMAERE-VANNESTE J (Reprint); COURAUD J-Y; HASSIG R; DI GIAMBERARDINO L; VAN DEN BOSCH DE AGUILAR P
AUTHOR ADDRESS: LAB DE BIOL CELLULAIRE, UNIV CATHOLIQUE DE LOUVAIN, PLACE CROIX DU SUD 5, 1348 LOUVAIN LA NEUVE, BELGIUM**BELGIUM
JOURNAL: Journal of Neurochemistry 51 (6): p1746-1754 1988
ISSN: 0022-3042
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Aging in the sciatic nerve of the rat is characterized by various alterations, mainly cytoskeletal impairment, the presence of residual bodies and glycogen deposits, and axonal dystrophies. These alterations

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Display 10/9/25 (Item 25 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

could form a mechanical blockade in the axoplasm and disturb the axoplasmic transports. However, morphometric studies on the fiber distribution indicate that the increase of the axoplasmic compartment during aging could obviate this mechanical blockade. Analysis of the axoplasmic transport, using acetylcholinesterase (AChE) molecular forms as markers, demonstrates a reduction in the total AChE flow rate, which is entirely accounted for by a significant bidirectional 40-60% decrease in the rapid axonal transport of the ***G4*** molecular form. However, the slow axoplasmic flow of G1 + G2 forms, as well as the rapid transport of the A12 form of AChE, remain unchanged. Our results support the hypothesis that the alterations observed in aged nerves might be related either to the impairment in the rapid transport of specific factor(s) or to **modified** exchanges between rapidly transported and stationary material along the nerves, rather than to a general defect in the axonal transport mechanisms themselves.

REGISTRY NUMBERS: 9000-81-1: ACETYLCHOLINESTERASE

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Display 10/9/25 (Item 25 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

DESCRIPTORS: CYTOSKELETAL IMPAIRMENT
DESCRIPTORS:
MAJOR CONCEPTS: Aging; Cell Biology; Enzymology--Biochemistry and Molecular Biophysics; Nervous System--Neural Coordination
BIOSYSTEMATIC NAMES: Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Chordates; Mammals; Nonhuman Vertebrates ; Nonhuman Mammals; Rodents; Vertebrates
CHEMICALS & BIOCHEMICALS: ACETYLCHOLINESTERASE
CONCEPT CODES:
02506 Cytology - Animal

10064 Biochemistry studies - Proteins, peptides and amino acids
10808 Enzymes - Physiological studies
20501 Nervous system - General and methods
20504 Nervous system - Physiology and biochemistry
24500 Gerontology
BIOSYSTEMATIC CODES:

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Display 10/9/25 (Item 25 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

86375 Muridae

- end of record -

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Display 10/9/26 (Item 26 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0006250648 BIOSIS NO.: 198886090569
CHANGES IN THE RESPONSIVENESS OF LUTEINIZING HORMONE SECRETION TO INFUSION OF THE OPIOID ANTAGONIST NALOXONE THROUGHOUT MALE SEXUAL MATURATION
AUTHOR: ULLOA-AGUIRRE A (Reprint); MENDEZ J P; GONZALEZ-CASTILLO A; CARRANZA-LIRA S; GARZA-FLORES J; PERES-PALACIOS G
AUTHOR ADDRESS: DEP REPRODUCTIVE BIOL, NATL INST NUTRITION SZ, VASCO DE QUIROGA NO 15, TLALPAN 14000, DF, MEXICO, DF**MEXICO
JOURNAL: Clinical Endocrinology 29 (1): p17-28 1988
ISSN: 0300-0664
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH
ABSTRACT: The present study investigated the time of male sexual maturation during which hypothalamic inhibitory opioid activity can be detected. Normal prepubertal (Tanner stage G 1 (Ts-G1) (n = 4)), early pubertal

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DIALOG(R)File 5:Biosis Previews(R)

(Ts-G2 (n =5)), pubertal (Ts-G3 (n = 4), and Ts-**G4** (n = 2)) and adult subjects (Ts-G5 (n = 4)) receives a rapid infusion of the selective opiate antagonist naloxone (NAL) (20 mg over 10 min). LH secretion was assessed by frequent (every 10 min for 2 h) venous sampling before and after administration of the opiate blocker, as well as by the LH response to exogenous GnRH. All but one (a Ts-G2 subject) pubertal boys showed a prompt and sustained increase in serum LH concentrations after NAL administration, as disclosed by the areas under the LH curve (aLHc) calculated from samples obtained before and after NAL infusion (aLHc in four Ts-G2 responders, 162 ± 20 (mean ± SEM) vs 314 ± 56 mIU/ml/min before and after NAL respectively, $P < 0.025$; Ts-G3, 227 ± 35 vs 362 ± 56 mIU/ml/min, $P < 0.025$; Ts- ***G4*** and Ts-G5, 432 ± 77 vs 687 ± 91 mIU/ml/min, $P < 0.05$). In contrast, none of the prepubertal children had significant changes in LH secretion after the NAL challenge (154 ± 17 vs 154 ± 9 mIU/ml/min). Although all NAL responders exhibited serum testosterone (T) levels above 5 nmol/l, a positive correlation between individual T values and magnitude of LH

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responses to NAL was not found. All subjects had significant serum LH increments after GnRH administration. In a second series of studies, additional groups of Ts-G1 subjects were primed during 5 days either with GnRH alone or with GnRH plus sex steroids (ethinyl oestradiol 12.5 μg/12 h or testosterone enanthate 1.8 mg/kg body weight (single dose)), before NAL administration, to investigate whether hypothalamic opioid activity might be unmasked by additional sex steroids. None of the priming schemes significantly **modified** the pituitary LH responses to NAL infusion (GnRH-primed group, 145 ± 48 vs 139 ± 43 mIU/ml/min before and after NAL, respectively; GnRH plus ethinyl oestradiol-primed group, 124 ± 42 vs 107 ± 34 mIU/ml/min; GnRH plus testosterone enanthate-primed group, 64 ± 10 vs 57 ± 24 mIU/ml/min). This study suggests that the development and/or maturation of the opioid control of LH secretion is temporally related with the onset of puberty. This surge of opioid inhibitory signals at early puberty might be reflecting a further stage of hypothalamic maturation and the re-establishment of an additional biological system for the control of the maturing reproductive

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REGISTRY NUMBERS: 9002-67-9: LUTEINIZING HORMONE; 465-65-6: NALOXONE;
58-22-0: TESTOSTERONE
DESCRIPTORS: BOY PUBERTY ONSET HYPOTHALAMUS GONADOTROPIN RELEASING HORMONE SEX STEROID TESTOSTERONE
DESCRIPTORS:
MAJOR CONCEPTS: Biosynchronization; Clinical Chemistry--Allied Medical Sciences; Development; Endocrine System--Chemical Coordination and Homeostasis; Metabolism; Nervous System--Neural Coordination; Pediatrics--Human Medicine, Medical Sciences; Pharmacology; Reproductive System--Reproduction
BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata, Animalia
COMMON TAXONOMIC TERMS: Animals; Chordates; Humans; Mammals; Primates; Vertebrates
CHEMICALS & BIOCHEMICALS: LUTEINIZING HORMONE; NALOXONE; TESTOSTERONE

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Display 10/9/26 (Item 26 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
(c) 2004 BIOSIS. All rts. reserv.
CONCEPT CODES:
07200 Circadian rhythms and other periodic cycles
10006 Clinical biochemistry - General methods and applications
10060 Biochemistry studies - General
10064 Biochemistry studies - Proteins, peptides and amino acids
10067 Biochemistry studies - Sterols and steroids
10068 Biochemistry studies - Carbohydrates
13004 Metabolism - Carbohydrates
13008 Metabolism - Sterols and steroids
13012 Metabolism - Proteins, peptides and amino acids
16504 Reproductive system - Physiology and biochemistry
17006 Endocrine - Gonads and placenta
17014 Endocrine - Pituitary
17020 Endocrine - Neuroendocrinology
20504 Nervous system - Physiology and biochemistry

22016 Pharmacology - Endocrine
22024 Pharmacology - Neuropharmacology

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Display 10/9/26 (Item 26 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

22028 Pharmacology - Reproductive system
25000 Pediatrics
25508 Development and Embryology - Morphogenesis
BIOSYSTEMATIC CODES:
86215 Hominidae

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Display 10/9/27 (Item 27 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0006117170 BIOSIS NO.: 198885086061
NMR STUDIES OF ABASIC SITES IN DNA DUPLEXES DEOXYADENOSINE STACKS INTO THE HELIX OPPOSITE THE CYCLIC ANALOGUE OF 2 DEOXYRIBOSE
AUTHOR: KALNIK M W (Reprint); CHANG C-N; GROLLMAN A P; PATEL D J
AUTHOR ADDRESS: DEP BIOCHEM MOL BIOPHYSICS, COLL PHYSICIANS SURGEONS, COLUMBIA UNIV, NEW YORK, NY 10032, USA**USA
JOURNAL: Biochemistry 27 (3): p924-931 1988
ISSN: 0006-2960
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Proton and phosphorus NMR studies are reported for the complementary d(C-A-T-G-A-G-T-A-C) · d(G-T-A-C-F-C-A-T-G) nonanucleotide duplex (designated APF 9-mer duplex) which contains a stable abasic site analogue, F, in the center of the helix. This

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DIALOG(R)File 5:Biosis Previews(R)

oligodeoxynucleotide contains a **modified** tetrahydrofuran moiety, isosteric with 2-deoxyribofuranose, which serves as a structural analogue of a natural apurinic/apyrimidinic site [Takeshita, M., Chang, C. N., Johnson, F., Will, S., and Grollman, A.P. (1987) J. Biol. Chemical 262, 10171-10179]. Exhangeable and nonexchangeable base and sugar protons, including those located at the abasic site, have been assigned in the complementary APF 9-mer duplex by recording and analyzing two-dimensional phase-sensitive NOESY data sets in H2O and D2O solution at low temperature (0 °C). These studies indicate that A5 inserts into the helix opposite the abasci site F14 and stacks with flanking **G4** · C15 and G6 · C13 Watson-Crick base pairs. Base-sugar proton NOE connectivities were measured through **G4**-A5-G6 on the unmodified strand and between the base protons of C15 and the sugar protons of the 5'-flanking residue F14 on the ***modified*** strand. These studies establish that all glycosidic torsion angles are anti and that the helix is right-handed at and adjacent to the abasic site in the APF 9-mer duplex. Two of the 16 phosphodiester groups exhibit phosphorus

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resonances outside the normal spectral dispersion indicative of altered torsion angles at two of the phosphate groups in the backbone of the APF 9-mer duplex.

REGISTRY NUMBERS: 958-09-8: DEOXYADENOSINE
DESCRIPTORS: WATSON-CRICK BASE PAIRS RIGHT-HANDED HELIX GLYCOSIDIC TORSION ANGLES
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Genetics; Methods and Techniques; Molecular Genetics--Biochemistry and Molecular Biophysics
CHEMICALS & BIOCHEMICALS: DEOXYADENOSINE
CONCEPT CODES:
01012 Methods - Photography
03502 Genetics - General
06504 Radiation biology - Radiation and isotope techniques
10062 Biochemistry studies - Nucleic acids, purines and pyrimidines

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Display 10/9/27 (Item 27 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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10300 Replication, transcription, translation
10504 Biophysics - Methods and techniques
10506 Biophysics - Molecular properties and macromolecules

- end of record -

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Display 10/9/28 (Item 28 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0005681491 BIOSIS NO.: 198784035640
COMPARISON OF THE TERTIARY STRUCTURE OF YEAST ASPARTYL TRANSFER RNA AND PHENYLALANYL TRANSFER RNA IN SOLUTION CHEMICAL MODIFICATION STUDY OF THE BASES
AUTHOR: ROMBY P (Reprint); MORAS D; DUMAS P; EBEL J P; GIEGE R
AUTHOR ADDRESS: INST DE BIOLOGIE MOLECULAIRE ET CELLULAIRE, DU CENT DE LE RECHERCHE SCIENTIFIQUE, 15, RUE R DESCARTES, 67084 STRASBOURG CEDEX, FRANCE**FRANCE
JOURNAL: Journal of Molecular Biology 195 (1): p193-204 1987
ISSN: 0022-2836
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A comparative study of the solution structures of yeast tRNAAsp and tRNAPhe was undertaken with chemical reagents as structural probes.

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Display 10/9/28 (Item 28 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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The reactivity of N-7 positions in guanine and adenine residues was assayed with dimethylsulphate and diethylpyrocarbonate, respectively, and that of the N-3 position in cytosine residues with diemthylsulphate. Experiments involved statistical modifications of end-labelled tRNAs, followed by splitting at ***modified*** positions. The resulting end-labelled oligonucleotidies were resolved on polyacrylamide sequencing

gels and analysed by autoradiography. Three different experimental conditions were used to follow the progressive denaturation of the two tRNAs. Experiments were done in parallel on tRNAAsp and tRNAPhe to enable comparison between the two solution structures and to correlate the results with the crystalline conformations of both molecules. Structural differences were detected for **G4**, G45, G71 and A21: **G4** and A21 are reactive in tRNAAsp and protected in tRNAPhe while G45 and G71 are protected in tRNAAsp and reactive in tRNAPhe. For the N-7 atom of A21, the different reactivity is correlated with the variable loop structures in the two tRNAs; in the case of G45 the results are explained by a different stacking of A9 between G45 and residue 46. For ***G4***

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DIALOG(R)File 5:Biosis Previews(R)

and G71, the differential reactivities are linked to a different stacking in both tRNAs. This observation is of general significance for helical stems. If the previous results could be fully explained by the crystal structures, unexpected similarities in solution were found for N-3 alkylation of C56 in the T-loop, which according to crystallography should be reactive in tRNAAsp. The apparent discrepancy in due to conformational differences between crystalline and solution tRNAAsp at the level of the D and T-loop contacts, linked to long-distance effects induced by the quasi-self-complementary anticodon GUC, which favour duplex formation within the crystal, contrarily to solution conditions where the tRNA is essentially in its free state.

DESCRIPTORS: AUTORADIOGRAPHY CONFORMATION STACKING CRYSTAL
DESCRIPTORS:
MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Cell Biology; Genetics
BIOSYSTEMATIC NAMES: Ascomycetes--Fungi, Plantae

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? s s10 and (cancer? or malignant? or neoplas?)
Processed 10 of 35 files ...
Processing
Completed processing all files
80 S10
4649612 CANCER?
1379268 MALIGNANT?
4384428 NEOPLAS?
S11 3 S10 AND (CANCER? OR MALIGNANT? OR NEOPLAS?)
? s s10 and (cancer? or malignant? or neoplast? or telomere?)
80 S10
4649612 CANCER?
1379268 MALIGNANT?
1242957 NEOPLAST?
62714 TELOMERE?
S12 3 S10 AND (CANCER? OR MALIGNANT? OR NEOPLAST? OR TELOMERE?)
? d s12/3/1-3
Display 12/3/1 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

139336928 CA: 139(22)336928s PATENT
A novel family of high affinity, modified antibodies for cancer treatment
INVENTOR(AUTHOR): Mezes, Peter; Gourlie, Brian; Rixon, Mark
LOCATION: USA
ASSIGNEE: The Dow Chemical Company
PATENT: European Pat. Appl. ; EP 365997 A2 DATE: 19900502
APPLICATION: EP 89119361 (19891018) *US 259943 (19881019)
PAGES: 99 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C12N-015/13A; C12N-005/10B; C12P-021/08B; A61K-039/395B DESIGNATED COUNTRIES: AT; BE; CH ; DE; ES; FR; GB; GR; IT; LI; LU; NL; SE

- end of record -
?
Display 12/3/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

05228580 EMBASE No: 1992368814
Structural consequences of a carcinogenic alkylation lesion on DNA: Effect of Osup 6-ethylguanine on the molecular structure of the d(CGC(esup 6G)AATTCGCG)- netropsin complex
Sriram M.; Van der Marel G.A.; Roelen H.L.P.F.; Van Boom J.H.; Wang A.H.-J.
Biophysics Division, Cell/Structural Biology Department, University of Illinois,Urbana, IL 61801 United States
Biochemistry (BIOCHEMISTRY) (United States) 1992, 31/47 (11823-11834)
CODEN: BICHA ISSN: 0006-2960
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

- end of record -
?
Display 12/3/3 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

03284764 EMBASE No: 1986037341
Covalent carcinogenic lesions in DNA: NMR studies of Osup 6-methylguanosine containing oligonucleotide duplexes
Patel D.J.; Shapiro L.; Kozlowski S.A.; et al.

Department of Biochemistry and Molecular Biophysics, College of Physicians and Surgeons, Columbia University, New York, NY 10032 United States
Biochimie (BIOCHIMIE) (France) 1985, 67/7-8 (861-886)
CODEN: BICMB
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH SUMMARY LANGUAGE: FRENCH

- end of record -

? d s12/9/1-3
Display 12/9/1 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

139336928 CA: 139(22)336928s PATENT
A novel family of high affinity, modified antibodies for cancer treatment
INVENTOR(AUTHOR): Mezes, Peter; Gourlie, Brian; Rixon, Mark
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ASSIGNEE: The Dow Chemical Company
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PAGES: 99 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C12N-015/13A; C12N-005/10B; C12P-021/08B; A61K-039/395B DESIGNATED COUNTRIES: AT; BE; CH ; DE; ES; FR; GB; GR; IT; LI; LU; NL; SE
SECTION:
CA215003 Immunochemistry
CA201XXX Pharmacology
CA208XXX Radiation Biochemistry
CA214XXX Mammalian Pathological Biochemistry
IDENTIFIERS: chimeric antibody TAG72 antigen diagnosis therapy imaging

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Display 12/9/1 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

cancer
DESCRIPTORS:
Immunoglobulins...
A, monoclonal, chimeric; to TAG-72 antigen for diagnosis, therapy, and imaging
Synthetic gene...
animal; for chimeric antibodies to TAG-72 antigen
Diagnosis...
cancer; with chimeric antibodies to TAG-72 antigen
Antitumor agents... Immunoradiotherapy...
chimeric antibodies to TAG-72 antigen
Neoplasm... Mammary gland,neoplasm...
chimeric antibodies to TAG-72 antigen for diagnosis, therapy, and imaging
Human...
chimeric antibodies to TAG-72 antigen for tumor diagnosis, therapy, and imaging

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Display 12/9/1 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

Intestine,neoplasm...
colon; chimeric antibodies to TAG-72 antigen for diagnosis, therapy, and imaging
Lymphokines...

conjugates, with anti-TAG-72 chimeric antibodies; for therapy of cancer
Immunoglobulins...
D, monoclonal, himeric; to TAG-72 antigen for diagnosis, therapy, and imaging
Immunoglobulins...
E, monoclonal, chimeric; to TAG-72 antigen for diagnosis, therapy, and imaging
Plasmid vectors...
for expression of chimeric antibodies to TAG-72 antigen
Protein sequences... cDNA sequences...
for mouse antibodies to human TAG-72 antigen
Immunoglobulins...
fragments; of chimeric antibodies to TAG-72 antigen for diagnosis,

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Display 12/9/1 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

therapy, and imaging
Antibodies...
fusion products; to TAG-72 antigen for diagnosis, therapy, and imaging
Immunoglobulins...
G1, monoclonal, chimeric; to TAG-72 antigen for diagnosis, therapy, and imaging
Immunoglobulins...
G2, monoclonal, chimeric; to TAG-72 antigen for diagnosis, therapy, and imaging
Immunoglobulins...
G3, monoclonal, chimeric; to TAG-72 antigen for diagnosis, therapy, and imaging
Immunoglobulins...
G4, monoclonal, chimeric; to TAG-72 antigen for diagnosis, therapy, and imaging
Immunoglobulins...
heavy chain; of antibodies to TAG-72 antigen

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Display 12/9/1 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

Scintigraphy...
immunoscintigraphy; with chimeric antibodies to TAG-72 antigen
Drug delivery systems...
immunotoxins; of chimeric antibodies therapy and imaging of cancer
Immunoglobulins...
light chain; of antibodies to TAG-72 antigen
Immunoglobulins...
M, monoclonal, chimeric; to TAG-72 antigen for diagnosis, therapy, and imaging
Imaging...
radioimmunoimaging; with chimeric antibodies to TAG-72 antigen
Gene,animal...
synthetic; for chimeric antibodies to TAG-72 antigen
Antigens...
TAG-72 (tumor-associated glycoprotein 72); diagnostic, therapeutic, and imaging application of chimeric antibodies to
Immunotherapy...

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Display 12/9/1 (Item 1 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)
(c) 2004 American Chemical Society. All rts. reserv.
with chimeric antibodies to TAG-72 antigen
CAS REGISTRY NUMBERS:
616516-64-4 616516-66-6 616516-68-8 616516-70-2 616516-72-4
616516-74-6 616900-89-1 amino acid sequence; chimeric antibodies to TAG-72 antigen for tumor diagnosis, therapy, and imaging
14158-31-7D 15715-08-9D 10043-66-0D 15750-15-9D 14913-89-4D
15766-00-4D 15757-86-5D 14119-09-6D 13967-65-2D 14265-75-9D
14998-63-1D 14378-26-8D 14133-76-7D 10098-91-6D 14391-96-9D
14913-49-6D anti-TAG-72 chimeric antibody conjugates, biological studies, for diagnosis, therapy, and imaging of cancer
59-05-2D 25316-40-9D anti-TAG-72 chimeric antibody conjugates, for therapy of cancer
616516-63-3 616516-65-5 616516-67-7 616516-69-9 616516-71-3
616516-73-5 616516-75-7 nucleotide sequence; chimeric antibodies to TAG-72 antigen for tumor diagnosis, therapy, and imaging
616516-88-2 616516-89-3 616516-90-6 616516-91-7 616516-92-8
616516-93-9 616516-94-0 616516-95-1 616516-96-2 616516-97-3

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Display 12/9/1 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 2004 American Chemical Society. All rts. reserv.
616516-98-4 616516-99-5 616517-00-1 616517-01-2 616517-02-3
616517-03-4 616517-04-5 616517-05-6 616517-06-7 616517-07-8
616517-08-9 616517-09-0 616517-10-3 616517-11-4 616517-12-5
616517-13-6 616517-14-7 unclaimed nucleotide sequence; novel family of high affinity, modified antibodies for cancer treatment
616517-15-8 616517-16-9 616517-17-0 616517-18-1 616517-19-2 unclaimed sequence; novel family of high affinity, modified antibodies for cancer treatment

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Display 12/9/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
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05228580 EMBASE No: 1992368814
Structural consequences of a carcinogenic alkylation lesion on DNA: Effect of Osup 6-ethylguanine on the molecular structure of the d(CGC(esup 6G)AATTCGCG)- netropsin complex
Sriram M.; Van der Marel G.A.; Roelen H.L.P.F.; Van Boom J.H.; Wang A.H.-J.
Biophysics Division, Cell/Structural Biology Department, University of Illinois,Urbana, IL 61801 United States
Biochemistry (BIOCHEMISTRY) (United States) 1992, 31/47 (11823-11834)
CODEN: BICHA ISSN: 0006-2960
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Exposure of cells to alkylating agents produces DNA lesions, most of which are repaired. However some alkyl lesions persist and play a role in inducing point mutations and the subsequent carcinogenic conversion. Osup

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Display 12/9/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2004 Elsevier Science B.V. All rts. reserv.
6-Ethylguanine (esup 6G) is a relatively persistent alkylation lesion

caused by the exposure of DNA to N-ethyl-N-nitrosourea. We study the consequence of the esup 6G incorporation in DNA by X-ray crystallography. We have obtained crystals of the **modified** DNA dodecamer d(CGC(esup 6G)AATTCGCG) and the unmodified d(CGCGAATTCGCG), complexed to the minor groove binding drug netropsin. The space group of both crystals is P2inf 12inf 12inf 1, isomorphous to other related dodecamer DNA crystals. The structures have been solved by the molecular replacement method and refined by the constrained least-squares procedure to R-factors of ~16% at resolution of ~2.5 Angstrom. The two independent esup 6G-C base pairs in the DNA duplex adopt different base-pairing schemes. The esup 6G4-C21 base pair has a configuration similar to a normal Watson-Crick base pair, except with one three-centered hydrogen bond pair and one direct hydrogen bond between esup 6G4 and C21. In contrast, the esup 6G16-C9 base pair adopts a wobble configuration. The ethyl group is in the proximal orientation (to Nsup 7) in both base pairs. These observations enrich and support those found in the crystal structure of d(CGC(esup 6G)AATTCGCG), complexed to

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Display 12/9/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

minor groove binding drugs Hoechst 33258 and Hoechst 33342 (Sriram et al. (1992) EMBO J. 11, 225- 232). We suggest that a dynamic equilibrium between these two configurations for the esup 6G-C base pair is likely and would present an ambiguous signal to the cellular transcription, replication, or repair mechanisms. In contrast, thymine can pair with esup 6G in only one way, albeit imperfect, mimicking a Watson-Crick base pair. This may be a plausible explanation of why thymine is found preferentially incorporated across the esup 6G during replication. In addition, we analyze the influence of the alkylation lesion on DNA and the molecular details of netropsin-DNA interaction. In the present two new netropsin complexes, the netropsin spans across five base pairs (starting halfway between C3-G22 and esup 6G4-C21 base pairs and ending at T8-A17 base pair) in the narrow minor groove. This is in contrast to the earlier crystal structure of netropsin complexed with another DNA dodecamer having the same AATT central core sequence, d(CGCGAATT(brsup 5C)GCG) (Kopka et al. (1985) J. Mol. Biol. 272, 390-395). In the latter structure, the netropsin lies between ***G4*** -brsup 5C21 and brsup 5C9-G16 base pairs. Our structural analysis suggests

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Display 12/9/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

that netropsin can occupy the minor groove in two orientations in the crystal, as in the case of the netropsin-d(CGCGATATCGCG) complex (Coll et al. (1990) Biochemistry 28, 1022-1029). Only a fraction of the amide nitrogens of netropsin form three centered hydrogen bonds with acceptor atoms of DNA in all structures.

DRUG DESCRIPTORS:
*congocidine; *guanine derivative--drug toxicity--to
double stranded dna; 4 (5 (4 methyl 1 piperazinyl)(2,5' bi 1h benzimidazol) 2' yl)phenol; ethylnitrosourea; hoe 33342
MEDICAL DESCRIPTORS:
*carcinogenesis; *dna alkylation; *dna conformation; *dna damage; *dna drug complex
article; base pairing; crystal structure; dna repair; dna replication; dna transcription; hydrogen bond; nucleotide sequence; point mutation; priority journal; X ray crystallography
CAS REGISTRY NO.: 1438-30-8 (congocidine); 23491-45-4 (4 (5 (4 methyl 1

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Display 12/9/2 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

piperazinyl)(2,5' bi 1h benzimidazol) 2' yl)phenol); 759-73-9 (ethylnitrosourea); 23491-52-3 (hoe 33342)

SECTION HEADINGS:

016 **Cancer**
022 Human Genetics
029 Clinical and Experimental Biochemistry
030 Clinical and Experimental Pharmacology
037 Drug Literature Index

- end of record -

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Display 12/9/3 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

03284764 EMBASE No: 1986037341

Covalent carcinogenic lesions in DNA: NMR studies of Osup 6-methylguanosine containing oligonucleotide duplexes

Patel D.J.; Shapiro L.; Kozlowski S.A.; et al.
Department of Biochemistry and Molecular Biophysics, College of Physicians and Surgeons, Columbia University, New York, NY 10032 United States

Biochimie (BIOCHIMIE) (France) 1985, 67/7-8 (861-886)
CODEN: BICMB
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH SUMMARY LANGUAGE: FRENCH

We report on proton and phosphorus high resolution NMR investigations of the self-complementary dodecanucleotide d(Cinf 1-Ginf 2-Ninf 3-Ginf 4-A$D5-Ainf 6-Tinf 7-Tinf 8-Cinf 9-Osup 6meGinf 1inf 0-Cinf 1inf 1-Ginf 1inf 2) duplexes (henceforth called Osup 6meG.N 12-mers), N = C, T, A and

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Display 12/9/3 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

G, which contain N3.Osup 6meG10 interactions in the interior of the helix. These sequences containing a single **modified** Osup 6meG per strand were prepared by phosphoamidite synthesis and provide an excellent model for probing the structural basis for covalent carcinogenic lesions in DNA. Distance dependent nuclear Overhauser effect (NOE) measurements and line widths of imino protons demonstrate that the N3 and Osup 6meG.10 bases stack into the duplex and are flanked by stable Watson-Crick base pairs at low temperature for all four Osup 6meG.N 12-mer duplexes. The imino proton of T3 in the Osup 6meG.T 12-mer and G3 in the Osup 6meG.G 12-mer helix, which are associated with the modification site, resonate at unusually high field (8.5 to 9.0 ppm) compared to imino protons in Watson-Crick base pairs (12.5 to 14.5 ppm). The nonexchangeable base and sugar protons have been assigned from two dimensional correlated (COSY) and nuclear Overhauser effect (NOESY) measurements on the Osup 6meG.N 12-mer helices. The directionality of the distance dependent NOEs establish all Osup 6meG.N duplexes to be right-handed helices in solution. The glycosidic torsion angles are in the anti range at the N3.Osup 6meG10 modification site except

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for Osup 6meG10 in the Osup 6meG.G 12-mer duplex which adopts a syn configuration. This results in altered NOEs between the G3 (anti).Osup 6meG10 (syn) pair and flanking G2.C11 and ***G4*** .C9 base pairs in the Osup 6meG.G 12-mer duplex. We observe pattern reversal for cross peaks in the COSY spectrum linking the sugar H1' protons with the H2',2'' protons at the G2 and Osup 6meG10 residues in the Osup 6meG.N 12-mer duplexes with the effect least pronounced for the Osup 6meG.T 12-mer helix. The proton chemical shift and NOE data have been analyzed to identify regions of conformational perturbations associated with N3.Osup 6meG10 modification sites in the Osup 6meG.N 12-mer duplexes. The proton decoupled phosphorus spectrum of Osup 6meG.T 12-mer duplex exhibits an unperturbed phosphodiester backbone in contrast to the phosphorus spectra of the Osup 6meG.C 12-mer, Osup 6meG.G 12-mer and Osup 6meG.A 12-mer duplexes which exhibit phosphorus resonances dispersed over 2 ppm characteristic of altered phosphodiester backbones at the modification site. Tentative proposals are put forward for N3.Osup 6meG10 pairing models based on the available NMR data and serve as a guide for the design of future

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DIALOG(R)File 73:EMBASE
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experiments.

DRUG DESCRIPTORS:
*carcinogen
MEDICAL DESCRIPTORS:
*dna damage
nuclear magnetic resonance; priority journal; genetic engineering; nonhuman
MEDICAL TERMS (UNCONTROLLED): 6 o methylguanosine
SECTION HEADINGS:
016 **Cancer**
029 Clinical and Experimental Biochemistry

- end of record -

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